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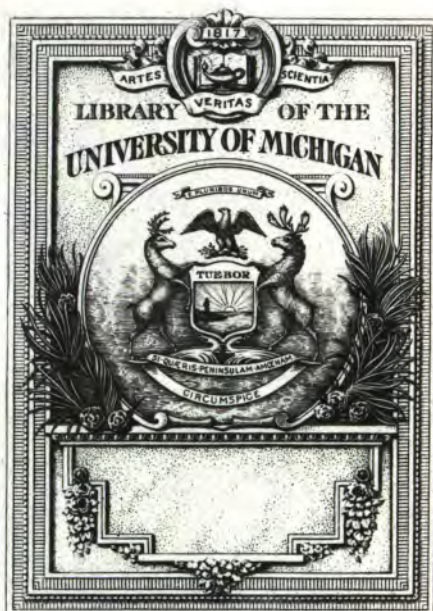
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NOTE.—These Official Notices take the place of all Notices previously issued in connexion with the Carriage of Grain Cargoes.



MERCHANT SHIPPING ACT, 1894.

OFFICIAL NOTICES,

ISSUED BY

^{9th Edit}
THE BOARD OF TRADE

WITH REGARD TO

Rules and Regulations conditionally approved under Section 453 of the Act.



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I.

OFFICIAL NOTICE.

To be substituted for the Official Notice issued in
July 1894.

Merchant Shipping Act, 1894.

WHEREAS it is provided by section 453 of the Merchant Shipping Act, 1894, that "Where a British Ship laden with a grain cargo at any port in the Mediterranean or Black Sea is bound to ports outside the Straits of Gibraltar, or where a British ship is laden with a grain cargo on the coast of North America, the precautions to prevent the grain cargo from shifting, set out in the Eighteenth Schedule to this Act, shall be adopted, unless the ship is loaded in accordance with regulations for the time being approved by the Board of Trade."

AND WHEREAS the Board of Trade have for the time being and until further notice, approved of the regulations, so far as they relate to the stowage of grain cargoes, of which the titles and dates are herein set forth.

Now, THEREFORE, this is to give notice that the precautions required by the said Act to be adopted by ships laden with a grain cargo shall not apply to ships laden at a port on the coast of North America, in accordance with the rules and regulations numbered (1) to (6), of which the titles and dates are herein set forth, so far as those regulations relate to the stowage of grain cargoes.

- (1.) Rules of the Board of Underwriters of New York, dated 12th November 1896, and certified by J. F. Whitlock, Secretary, on that date.
- (2.) Rules of the National Board of Marine Underwriters of New York, dated 24th November 1896, and certified by J. J. Raymond Smith, Secretary, on that date.

- (3.) Rules of the New Orleans Board of Underwriters dated 13th November 1896, and signed by George Matherson, Secretary.
- (4.) Rules and Regulations of the Wheat Tariff Association at San Francisco, for ships carrying one-third of cargo of wheat in bulk, dated 16th November 1896, and signed by Edm. L. Woods.
- (5.) Regulations for the loading of Grain Cargoes (wholly in bags) at San Francisco, dated 16th November 1896, and signed Edm. L. Woods.
- (6.) Revised rules and regulations of the Office of the Port Warden of the Harbour of Montreal sanctioned by the Council of the Montreal Board of Trade, 28th May 1895, and signed Geo. Hadrill, Secretary, Montreal Board of Trade.

COURTENAY BOYLE,
Secretary,
April 1897.

INGRAM B. WALKER,
Assistant Secretary,
Marine Department.

Rules and Regulations in force at different Ports for the Stowage and Carriage of Grain in Ships, as approved by the Board of Trade.

(1.)

UNITED STATES.

**THE BOARD OF UNDERWRITERS OF NEW YORK,
Bureau of Inspection, 49, Wall Street,
New York.**

RULES for LOADING GRAIN in BAGS or BULK.

VESSELS loading grain in bags or bulk on voyages from Ports of the United States to Ports in Europe will be required to conform to the following rules adopted by "The Board of Underwriters of New York," to enable the Surveyor to issue the proper Certificate.

1. *Pump-well*.—The pump-well must be sufficiently large to admit of the passage of a man to the bottom of the hold, and room to work conveniently when there, say not less than four feet fore and aft, and five feet athwartships (reference, however, must be had to the size of the keelson and assistant keelsons), and must be grain tight and ceiled if required.

2. Access to the pump-well must be had either by a man-hole through the upper deck, or by a clear passage-way between decks from the after hatch. In no case must it be from the main hatch.

SAILING VESSELS (WOOD).

GRAIN IN BAGS.

3. *Dunnage*.—Vessels being loaded with grain in bags shall be dunnaged from six to twelve inches on the floor, and from six to fifteen inches on the bilges, according to the form of the ship's bottom; and two (2) inches at the sides

In between decks shall be dunnaged two (2) inches from the sides.

4. The dunnage in the hold must be laid over with boards and entirely covered with sails, or approved mats, so as to prevent any of the loose grain from running down on to the floor of the vessel and thence to the pump-well. If sails are used they must be of good quality and free from holes. The sails and mats must cover the keelsons.

5. *Shifting Planks.*—That shifting boards must extend from the upper deck to the keelson when grain is carried in bulk. When grain is carried in bags the shifting boards must extend from deck to deck in the between decks, and not less than four feet downward from the beams in the lower hold.

6. Care must be taken that when grain in bags is stowed over bulk grain, the bulk grain must be covered with boards placed athwartships and fore and aft.

GRAIN IN BULK, AND IN BULK AND BAGS.

7. *Bins.*—Bulk or loose grain must be taken in bins prepared for that purpose. Materials for bins must be of well-seasoned stock; unseasoned lumber must not be used where it will come in contact with the grain.

8. *Floor of Bin.*—The floor of the bin must be laid on sleepers of scantling $2\frac{1}{2} \times 4$ inches in size, 16 inches apart from centre to centre, supported by studs of corresponding size, also 16 inches from centre to centre.

It must be raised from six to twelve inches over the floor of the vessel—in the bilge from six to fifteen inches, and in vessels that are very flat or sharp, may be increased or diminished at the discretion of the Surveyor.

In no case shall the floor of the bin be laid on loose dunnage.

The floor is considered as extending from the keelson to the turn of the bilge. It must be laid with two thicknesses of one-inch boards so that they will break joints at the edges and ends, and care must be taken that it be grain tight. Vessels under 300 tons register may be permitted to have a single floor laid with one-inch boards placed edge and edge and seams covered with battens 2×1 inch, or edges lapped one inch.

9. The studs for the forward and after bulkheads for vessels not exceeding 14 feet depth of hold must be equal to 4 by 6 inches in size; for vessels of a greater depth than 14 feet, they must be equal to 4 by 8 inches. They must be set 20 inches apart from centre to centre, firmly secured at the top and bottom, and properly braced and cleated on the ceiling, to resist the pressure of the grain, and made grain tight.

10. All air strakes and open seams must be closed and the sides of the vessel above the turn of the bilge must be ceiled after the manner of clapboarding reversed, and not furred where it can be avoided. When furring is used the bilge ceiling must be made grain-tight at the sides by shutters or stops. All lodging and bosom knees not fitted tight to deck must be cleated around the face of the knee.

11. Vessels with one deck and beams carrying a full cargo in bulk are required to have, in addition to the forward and after end bulkheads, two trimming bulkheads (thus making a division of three compartments), to extend from the upper deck to within two feet of the bottom of the vessel. Except where the between decks are laid aft, the after one may extend only to lower deck, and so placed that in loading the middle compartment will be entirely filled and the end ones left to trim the vessel. If the end compartments are not entirely filled care must be taken that the cargo be properly covered and secured on top to prevent shifting. The studs for the trimming bulkheads to be not less than 3 x 6 inches and set 22 inches from the centres, and all studs to be firmly secured at top and bottom and properly braced and cleated.

12. Vessels carrying bulk and bags must not carry the bulk higher than to admit of the stowage of one quarter of the cargo, or not less than five heights of bags over it except the vessels be under 500 tons register, when the height may be regulated by the Surveyor.

13. Vessels with two decks having bulk in the lower hold and strakes of the between deck plank of the wings and the amidships taken up, cannot take over two feet of grain in bulk over said deck upon which five tiers of bags must be stowed over board coverings, to be fitted as in Rule 6 above. By this means the lower hold can be kept full.

14. The between deck hatches must be kept off, and the scuppers safely plugged to prevent loose grain from running down the ship's timbers.

15. The grain must be well trimmed up between the beams and wings, and the space between the beams and wings completely filled.

16. *Draft or Free-Board.*—The draft of water, or free-board, to be regulated by a scale approved by the Loading Committee.

Free-board shall be measured from top of deck at the side of the vessel to the water's edge at lowest part of sheer.

IRON SAILING VESSELS.

17. *Iron Sailing Vessels.*—The foregoing rules are also to apply to iron sailing vessels, excepting that in cases where the frames and inside of plating are in such condition as to warrant it, the side ceiling may be dispensed with, and if the stanchions are not over four feet apart and are double, two or three inch plank can be fitted between them for shifting plank.

IRON STEAMSHIPS.

1. Ballast tanks must be covered over with a cargo platform of $2\frac{1}{2}$ or 3 inch planks, which must be sound, dry, and grain-tight.

2. Steamships without ballast tanks, having a cargo platform eighteen (18) inches above the cement in the bottom, will not be required to fit a grain floor over it, otherwise such grain floor will be required.

3. Vessels carrying small quantities of grain, must have shifting boards fitted as high as the bulk grain comes, and must be covered with boards before any other cargo can be stowed over it, as in Rule 6 for sailing vessels.

4. Two to three inch shifting planks, or equivalent, must be shored every eight feet of length in hatchways, and every five feet of depth of hold. Shores to be 3×8 to 4×6 , at discretion of Surveyor, and can be fitted as in Rule 5 for sailing vessels.

5. No bulk grain to be carried in between decks, unless same can be, or is opened, in conformity with Rule 13 for sailing vessels, otherwise must have properly constructed feeders to

feed the holds, feeders amidships to have centre shifting boards. All vessels with iron decks having sufficient openings in the wings of between decks, must be fitted with proper feeders, and be filled full of bulk grain, when practicable.

6. Steamers not having properly constructed feeders, will be required to leave sufficient space above the bulk grain, not less than $5\frac{1}{2}$ feet, to properly secure it with bags of grain or other cargo ; the bulk to be covered as in Rule 6 for sailing vessels.

7. Steamers having one deck and beams may carry bulk grain to such a height as will permit the stowage over it of not less than five heights of bags, excepting at extreme ends, where four heights will be sufficient, stowed over boards laid fore and aft, and so placed that each bottom bag shall be supported by two boards with athwartship bearing boards not more than 12 feet apart to prevent the bags from settling into the bulk grain.

8. Rule 16 for sailing vessels, is also applicable to steamers.

9. The type of steamers known as Switch-back are allowed to carry all bulk grain in Nos. 2 and 3 Holds, providing they have a laid deck and are supplied with properly constructed feeders all around the hatchways, and any space outside the feeders is to be filled with bag grain instead of bulk. The feeding hatch to have shifting planks in the middle as high up as the hatch covers on upper deck.

10. The type of steamers known as Part Awning Deck, may carry all bulk grain in No. 1 Hold, when fitted the same as in the case of the above described "Switch-back type."

11. *Oats*.—Oats are allowed to be shipped in bulk in steamships fitted for grain, excepting that feeders will not be required, but must be trodden down to the satisfaction of the Surveyor, while being loaded, or space left to properly secure same.

12. *Flaxseed*.—Flaxseed is to be shipped in the same manner as wheat, excepting that the boards covering the bulk seed shall be placed close together.

GENERAL REGULATIONS.

Owners and Masters of vessels intending to load grain are particularly requested to give early notice to the Surveyors at this office, when ready for fitting, and also when ready to receive grain.

Vessels loaded in conformity to the foregoing rules may have a certificate to that effect from the Surveyor appointed by "The Board of Underwriters of New York," and the respective Insurance Companies composing said Board will be duly notified thereof.

I hereby certify that the foregoing Regulations, numbered 1 to 17 and 1 to 12 respectively, are the regulations of "The Board of Underwriters of New York" in respect to sailing vessels and to steamships loading grain cargoes.

Dated this 12th day of November 1896.

(Signed) JAS. F. WHITLOCK,
Secretary to the Board
of Underwriters of
New York.

WHEREAS it is provided by section 453 of the Merchant Shipping Act, 1894, that where a British ship is laden with a grain cargo on the coast of North America, the precautions to prevent the grain cargo from shifting, set out in the Eighteenth Schedule to this Act, shall be adopted unless the ship is loaded in accordance with the Regulations for the time being approved by the Board of Trade:

And whereas the Board of Underwriters of New York have submitted to the Board of Trade Rules for loading grain in bags or bulk certified by the Secretary of the said Board on the 12th day of November 1896:

And whereas it is provided in the said Rules that the draft of water or freeboard of sailing vessels and steamers is to be regulated by a scale approved by the Loading Committee:

And whereas, in accordance with the provisions of section 438 of the Merchant Shipping Act, 1894, British ships are required to be marked so as to indicate the maximum load-line in salt water to which it shall be lawful to load such ships:

Now, therefore, the Board of Trade, in pursuance of the powers vested in them by section 453 of the said Act, and for the purpose only of giving effect to the provisions contained in Part V. of the said Act relating to the carriage of grain, do hereby approve the Rules or Regulations of the Board of Under-

writers of New York annexed hereto: Provided nevertheless and the approval is subject to this condition that British ships, when loaded in accordance with such Rules or Regulations, shall not have less freeboard than is required by the Merchant Shipping Act, 1894,

Dated this 1st day of March 1897.

(Signed) COURTENAY BOYLE,
Secretary to the Board of
Trade.

(2.)

THE NATIONAL BOARD OF MARINE UNDERWRITERS,
6-9, Hanover Street, New York.

RULES for VESSELS LOADING GRAIN.

To enable the Surveyor to issue the proper Certificate, Vessels loading with *Grain in Bags or Bulk* on voyages from ports of the United States to ports in Europe will be required to conform to the following rules, adopted by the National Board of Marine Underwriters, May 1st, 1895.

Owners and masters having vessels chartered to load with grain are particularly requested to give early notice to the Surveyors of this Board when vessels are ready for fitting, and also when ready to receive grain.

Vessels loaded in conformity to the following rules may have a certificate of the National Board of Marine Underwriters to that effect, and the respective insurance companies composing said Board will be duly notified thereof.

GENERAL REGULATIONS.

A. *The Pump-well* must be sufficiently large to admit of the passage of a man to the bottom of the hold, and with room to work conveniently when there, say not less than four feet fore and aft, and five feet athwartships (reference, however, must be had to the size of the keelson and assistant keelson), and must be grain-tight and ceiled.

B. Access to the pump-well must be had either by a man-hole through the upper deck, or by a clear passage-way between decks from the after hatch. In no case must it be from the main hatch.

c. *The Draft of Water or Free-board* is to be regulated by the scale approved by the Loading Committee, but in case of British vessels, it shall not be less than that assigned by the provisions of the Merchant Shipping (Load Line) Act of 1890, or subsequent acts. Free-board shall be measured from top of deck at the side of the vessel to the water's edge at the middle of the length of the load-water line.

d. All feeders and end bulkheads must be boarded on the inside.

SAILING VESSELS (WOOD).

GRAIN IN BAGS.

1. *Dunnage*.—Vessels being loaded with grain in bags shall be dunnaged from six to twelve inches on the floor and from six to fifteen inches on the bilges, according to the form of ship's bottom, and two inches on the sides.

The between decks shall be dunnaged two (2) inches from the sides and decks.

2. The loose dunnage in the hold must be laid over with boards and entirely covered with sails, or approved mats, so as to prevent any of the loose grain from running down on to the floor of the vessel, and thence to the pump-well. If sails are used they must be of good quality and free from holes. The sails and mats must cover the keelsons.

3. *Shifting Planks*.—There shall be two-inch yellow pine or three-inch spruce shifting planks (or equivalent) which must extend from the upper deck to the keelson when grain is carried in bulk. When grain is carried in bags the shifting boards must extend from deck to deck in the between decks, and not less than four feet downward from the beams in the lower holds.

4. Care must be taken that when grain in bags or other cargo is stowed over bulk-grain the bulk-grain must be covered with two thicknesses of boards placed athwartships and fore and aft, with spaces between the lower tier of not more than 4 feet, and between the upper tier of not more than 9 inches. Care must be taken that all the bags are properly stowed, in good order, and well filled, and that the tiers are laid close.

GRAIN in BULK and in BULK and BAGS.

5. *Bins*.—Bulk or loose grain must be taken in bins prepared for that purpose. Materials for bins must be of well seasoned stock; unseasoned lumber must not be used where it will come in contact with the grain.

6. *The Floor of the Bin* must be laid on sleepers or scantling $2\frac{1}{2} \times 4$ inches in size, 16 inches apart from centre to centre, supported by studs of corresponding size, also 16 inches from centre to centre.

It must be raised from 6 to 12 inches over the floor of the vessel, in the bilge from 6 to 15 inches, and in vessels that are very flat or sharp, may be increased or diminished at the discretion of the surveyor.

In no case shall the floor of the bin be laid on loose dunnage.

The floor is considered as extending from the keelson to the turn of the bilge. It must be laid with two thicknesses of one-inch boards, so that they will break joints at the edges and ends, and care must be taken that it be perfectly grain-tight.

7. The studs for the forward and after bulkheads for vessels not exceeding 14 feet depth of hold must be equal to 4×6 inches in size; for vessels of a greater depth than 14 feet, they must be equal to 4×8 inches. They must be set 20 inches apart from centre to centre, firmly secured at the top and bottom, and properly braced in the centre, also cleated on the ceiling, to resist the pressure of the grain, and made grain-tight.

8. All air strakes and open seams must be closed, and the sides of the vessel above the turn of the bilge must be ceiled after the manner of clapboarding reversed, and not furred where it can be avoided. When furring is used, the ceiling must be made grain-tight at the bilge and sides. All lodging and bosom knees not fitted tight to the deck must be cleated grain-tight around the face of the knees.

9. *Masts, Water-tanks, and Pumps*, either of wood or iron, must be properly cased to prevent damage from leakage, and mast coats must be strong and tight.

10. *Single Deck and One Deck and Beam Vessels* carrying full cargoes are required to have, in addition to the forward and

after end bulkheads, two trimming bulkheads (thus making a division of three compartments), to extend from the upper deck to within two feet from the bottom of the vessel, except that where the between decks are laid aft, the after one may extend only to lower deck, and be so placed that in loading the middle compartment will be entirely filled, and the end ones left to trim the vessel. If the end compartments are not entirely filled care must be taken that the cargo is properly covered and secured on top to prevent shifting. Vessels of 500 tons net register and under may carry their cargo in bulk, but all vessels over 500 tons net register must not carry bulk higher than to admit of the stowage of one quarter of the cargo in bags, or not less than five heights of bags over it on board coverings, as provided for in section 4. The studs for the trimming bulkheads must not be less than 3×6 inches and set 22 inches from the centres, and all studs must be firmly secured at top and bottom and properly braced and cleated.

11. Vessels carrying bulk and bags must not carry bulk higher than to admit of the stowage of one-quarter of the cargo in bags, or not less than five heights of bags over it (except the vessel be under 500 tons register, when the height may be regulated by the surveyor).

12. *Vessels with Two Decks* having bulk grain in hold as high as the between deck shall have strakes of between deck-plank opened on each side over the bulk in the wings and amidships, and have 3 to 4 feet of bulk grain in wing and midship feeders, upon which sufficient grain in bags or other cargo must be stowed over board coverings, as provided for in section 4. When the hold is not filled with bulk grain to the between deck, enough space must be left to stow sufficient cargo over it to properly secure it, as provided for in section 4. Between deck hatches must be kept off and scuppers safely plugged.

13. The grain must be well trimmed up between the beams and wings, and the space between completely filled.

IRON AND/OR STEEL SAILING VESSELS.

14. The foregoing rules are also to apply to iron and/or steel sailing vessels, excepting that in cases where the frames and

inside of plating are in such condition as to warrant it, the side ceiling and extra floor may be dispensed with; but in vessels having iron or steel between decks, without wing and 'midship feeders, the bulk grain in the lower hold must be secured by at least five heights of bags laid over board coverings, as provided for in section 4.

IRON STEAMERS.

15. Steamers having water ballast tanks must have them covered with a grain-tight platform made of $2\frac{1}{2}$ inch or 3 inch sound and dry planks. Steamers without ballast tanks must have a grain-tight ceiling, raised not less than 18 inches above the cement. Vessels carrying small quantities of grain in bulk must have shifting boards to the top of the grain, and the bulk must be properly covered with boards before any other cargo is stowed over it.

16. Steamers with a continuous hold forward will be required to have a closed bulkhead to divide the same. This rule will also apply to the after hold, but may be waived where five heights of bag grain or its equivalent of other cargo is stowed over the bulk grain in the lower hold, as provided for in section 4.

17. Shifting planks of 2-inch yellow pine or 3-inch spruce (or equivalent) must extend from deck to floor where grain is carried in bulk, and be properly secured to stanchions, and shored every 8 feet of length and every 5 feet of depth of hold, including hatchways. Shores to be 3×8 or 4×6 .

18. No bulk grain to be carried in between decks, nor where a ship has more than two decks, between the two upper decks, unless in properly constructed feeders to fill the orlop and lower hold. Bulk grain may be carried on orlop or third deck below, provided said orlop has wing openings and amidship feeders to feed same. All amidship feeders to have properly constructed shifting boards to top of combings.

19. Two-deck steamers not having sufficient and properly constructed wing and 'midship feeders will be required to leave sufficient space above the bulk in lower hold not less than $5\frac{1}{2}$ feet, to properly secure it with bags or other cargo; the bulk to be boarded as in section 4.

20. Steamers having one deck and beams may carry bulk to such a height as will permit the stowage over it of not less than five tiers of bags, except in the extreme ends, where four tiers of bags may be sufficient. All bags to be stowed on two tiers of boards, as provided for in section 4.

21. The grain must be well trimmed up between the beams and wings, and the spaces between same completely filled.

22. Steamers of the type known as "switchback" shall only be allowed to carry all bulk in No. 2 lower hold, and steamers of the type known as Part Awning Deck may be allowed to carry all bulk in No. 1 and 2 lower holds, when they have a between deck with feeders around the hatchways, all open spaces outside the feeders on the between deck to be filled with bag grain or general cargo, but if the vessel be too deep to carry any grain or other cargo on the between deck, the feeders are to be secured to the satisfaction of the surveyor. All hatchways used as feeders to have properly constructed shifting boards to the top of the combings.

OATS.

23. Full cargoes of oats may be shipped in bulk in vessels fitted for grain, excepting that feeders will not be required, but they must be well trodden down to the satisfaction of the surveyor while being loaded, or space left for at least five heights of bags.

FLAXSEED.

24. Flaxseed is to be stowed in the same manner as wheat, excepting that the boards covering the bulk seed shall be placed close together and covered with bags.

Addendum.

At a meeting of this Board, held on this 15th day of July 1896, it was on motion resolved that Rule No. 3 applying to sailing vessels (wood) shall also be made to apply to iron and/or steel sailing vessels and steamers.

I hereby certify that the foregoing Regulations, numbered 1 to 24, are the Regulations of the National Board of Marine Underwriters, New York, in respect of ships loading grain cargoes.

Dated this 24th day of November 1896.

(Signed) J. RAYMOND SMITH,
Secretary to the National Board
of Marine Underwriters,
New York.

WHEREAS it is provided by section 453 of the Merchant Shipping Act, 1894, that "where a British ship is laden with a grain cargo on the coast of North America, the precautions to prevent the grain cargo from shifting set out in the Eighteenth Schedule to this Act shall be adopted unless the ship is loaded in accordance with Regulations for the time being approved by the Board of Trade:"

Now, therefore, the Board of Trade, in pursuance of the provisions of section 453 of the said Act, and for the purpose only of giving effect to the provisions contained in Part V. of the said Act relating to the carriage of grain, do hereby approve the Regulations of the National Board of Marine Underwriters, New York, herein-before set out and dated the 24th day of November 1896.

Dated this 1st day of March 1897.

(Signed) COURTENAY BOYLE,
Secretary to the Board of
Trade, London.

(3.)

REGULATIONS of the BOARD of UNDERWRITERS of NEW ORLEANS,
for PREPARATION and STOWAGE of GRAIN LOADED VESSELS.

STEAMERS.

1. Steamers, with or without water ballast tanks, must have floors planked with 2½ or 3 inch planks (the same being sound, dry and grain tight), and not less than 18 inches above cementing.

2. Steamers with a continuous hold forward will require a close bulkhead in the same, and also aft if deemed necessary by the surveyor.

3. Two (2) to three (3) inch shifting planks, or equivalent, at the discretion of the surveyor, must be properly secured to stanchions and shored every 8 feet of length, and every 5 feet of depth of hold; shores to be 3 by 8 or 4 by 6, at the discretion of the surveyor.

4. The shifting boards must extend from upper deck to keelson where grain is carried in bulk, with secure beam fillings; when grain is carried in bags the shifting boards must extend from deck to deck in the 'tween decks and not less than 4 feet downwards from the beams in the lower holds.

5. No bulk grain to be carried in the between decks, or (where a ship has more than two decks) between the two upper decks, unless in properly constructed feeders to feed the hold; feeders amidships to have centre shifting boards.

6. All grain carried in bulk must be supplied by proper feeders or sufficient space left to properly secure it with bags of grain or other cargo.

7. Steamers, not having properly constructed feeders will be required to leave sufficient space above the bulk, not less than $5\frac{1}{2}$ feet, to properly secure it with bags or other cargo; the bulk to be boarded.

8. Steamers having one deck and beams may carry bulk to such a height as will permit the stowage over it of not less than five heights of bags stowed over boards laid fore and aft (excepting at the extreme ends where four heights will be sufficient), and so placed that each bottom bag shall be supported by two boards with athwartship bearing boards sufficient to prevent the bags from settling into the bulk grain.

9. The grain must be well trimmed up between the beams and wings and the space between the beams and wings completely filled.

10. The class of steamers known as "switchback" or "web frame," are allowed to carry all bulk grain in No. 2 hold only. The feeding hatch must have shifting planks as high as the hatch covers.

11. Steamers which have long bridge decks, same being double deck at No. 2 and/or 3 holds may carry all bulk grain in said

holds, only same must be fitted with properly constructed feeders with shifting boards extending up to the top of hatch covers. No bulk grain will be allowed outside the feeders and between the decks.

12. Bunker hatches within any hold in which they are fitted are to be utilised for feeders when possible. A bulkhead is required between Nos. 1 and 2 holds.

13. Oats may be shipped in bulk in steamers fitted for grain, excepting that feeders will not be required, but they must be well trodden down to the satisfaction of the surveyor while being loaded, or space left for at least five heights of bags.

14. Flax seed is to be shipped in the same manner as wheat, excepting that the boards covering the bulk seed shall be placed close together.

PART CARGOES.

15. Vessels loading part cargoes of grain will conform to above rules, except where there is seven feet or more height between grain in lower holds and decks above, and said grain secured by cotton screwed in over one tier placed on it flat, in which case no platform of boards will be required between grain and cotton.

I hereby certify that the foregoing Regulations numbered 1 to 15 are the Regulations of the Board of Underwriters of New Orleans in respect of ships loading grain cargoes.

Dated, New Orleans, November 13th, 1896.

(Signed) GEO. MATHERSON,
Board of Underwriters.

WHEREAS it is provided by Section 453 of the Merchant Shipping Act, 1894, that "Where a British ship is laden with a grain cargo on the coast of North America the precautions to prevent the grain cargo from shifting, set out in the Eighteenth Schedule to this Act, shall be adopted unless the ship is loaded in accordance with Regulations for the time being approved by the Board of Trade":

Now, therefore, the Board of Trade, in pursuance of the provisions of Section 453 of the said Act, and for the purpose

only of giving effect to the provisions contained in Part V. of the said Act relating to the carriage of grain, do hereby approve the Regulations of the Board of Underwriters of New Orleans herein-before set out and dated the 13th day of November, 1896.

Dated this 1st day of March, 1897.

(Signed) COURTENAY BOYLE,
Secretary to the Board of
Trade, London.

(4.)

**RULES for loading IRON or STEEL SHIPS with one-third of
CARGO of WHEAT in bulk from PACIFIC COAST to EUROPE.**

Adopted by the Wheat Tariff Association.

1. The pump well must be sufficiently large to admit of the passage of a man to the bottom of the hold and have room to work conveniently there; and must be grain tight and cased if required.

Access to the pump well must be either by a manhole through the upper deck or by a clear passage way between decks from the after hatch; in no case must it be from the main hatch.

2. Bulk or loose grain must be taken in bins prepared for that purpose. Material for bins must be of well-seasoned spruce or pine stock. Unseasoned lumber must not be used where it will come in contact with the grain.

3. The floor of bin must be laid on sleepers of scantling, 3 x 4 inches in size, 16 inches apart from centre to centre, supported by studs in the bilges of corresponding size, also 16 inches from centre to centre. It should be raised 6 inches over the floor of the vessel; in the bilge, 9 inches.

All defects in the ceiling of the ship must be made good before the floors of the bin are laid, and care must be taken that the casing around the iron keelson be made grain tight.

The sides of the vessel above the turn of the bilge must be ceiled after the manner of clapboarding, so as to shed grain, and

the boards must be lapped not less than 2 inches and securely nailed with steel wire nails.

In no case should the floor of the bin be laid on loose dunnage. The floor is considered as extending from the keelson to the turn of the bilge. It must be laid with two thicknesses of one-inch boards, so that they will break joints at the edges and ends, and care must be taken that it be perfectly tight.

The bins to be lined with burlaps or sails to the height of the bulk grain.

4. The studs for the forward and after bulkheads must be equal to 4×8 inches. They must be set 20 inches apart from centre to centre, firmly secured at the top and bottom, and properly braced and cleated on the ceiling to resist the pressure of the grain.

5. Shifting boards, two inches thick, must extend from the keelson to the deck on each side of the stanchions, fitted tight to the beams, with battens over the seams, and care must be taken that the stanchions are well secured at both ends and not more than 7 feet apart.

Two thicknesses of 1-inch board may be substituted for the 2-inch boards, provided they are fixed to break joints at the edges and ends.

Shifting boards to be shored off to sides of ship in wake of hatches.

Wooden stanchions of same thickness as the iron stanchions to be put in and driven tight from beams to keelson, to which the shifting boards are to be secured.

Exceptions may be made in cases where permanent shifting planks are satisfactorily fitted.

6. Masts and water tanks, either of wood or iron, must be properly cased to prevent damage from leakage. Mast coats must be strong and tight.

7. Vessels being loaded with over 12,000 bushels (360 short tons) of grain in bulk must have intermediate athwartships partitions or bulkheads.

8. Vessels carrying bulk and bags should not carry the bulk higher than to admit of the stowage of not less than 6 heights of bags over it, stowed as customary, on a platform of 1-inch boards, not more than 6 inches apart, supported on and nailed to 1-inch boards not more than 5 feet apart, so as to prevent the bags from settling into the bulk grain.

Each bottom bag to be so placed that it shall be supported by two boards running crosswise to the bags.

Two tiers of bags to be stowed from the bottom of the bins to the top of the bulk wheat, around the masts, pump well and tank.

9. No double deck vessel is permitted to carry bulk grain in the between decks.

I hereby certify that the foregoing Regulations numbered 1 to 9 are the Regulations of the Wheat Tariff Association, San Francisco, in respect of ships loading grain cargoes.

Dated this 16th day of November, 1896.

(Signed) EDM. L. WOODS,
Secretary to the Wheat Tariff Association.
San Francisco.

WHEREAS it is provided by Section 453 of the Merchant Shipping Act, 1894, that "Where a British ship is laden with a grain cargo on the coast of North America the precautions to prevent the grain cargo from shifting set out in the Eighteenth Schedule to this Act shall be adopted, unless the ship is loaded in accordance with regulations for the time being approved by the Board of Trade:"

Now, therefore, the Board of Trade, in pursuance of the provisions of Section 453 of the said Act, and for the purpose only of giving effect to the provisions contained in Part V. of the said Act relating to the carriage of grain, do hereby approve the Regulations of the Wheat Tariff Association, San Francisco, herein-before set out and dated the 16th day of November, 1896.

Dated this 1st day of March 1897.

(Signed) COURTENAY BOYLE,
Secretary to the Board of
Trade, London.

(5.)

**REGULATIONS for the LOADING of CARGOES of GRAIN in BAGS
at PACIFIC COAST PORTS.**

(Adopted by the Wheat Tariff Association.)

WOODEN SHIPS.

1. Dunnage in the bottom to be not less than ten inches on the floor, and fifteen inches at the bilge.

Dunnage and sides to be clapboarded from the keelson to the upper deck shelf.

All decks to be dunnaged with strip and board two inches high.

Sufficient covering to be laid over the bottom as high as the upper turn of the bilge, all fore and aft, to prevent the loose grain getting to the pumps.

2. Shifting boards two inches thick, placed on each side of the stanchions, abreast of each other, must extend from deck to deck in the 'tween decks, and must extend not less than four feet downward from the beams in the lower hold, and be secured to the satisfaction of the surveyors.

3. In vessels where no manhole is fitted to get to the pumps, a proper communication is to be left through the cargo to get access to the pump well.

IRON SHIPS.

4. Dunnage in the bottom to be not less than six inches on the floor and ten inches at the bilge. Lower hold to be lined with boards from the keelson to the lower deck beams.

The sides of the 'tween decks, if fore and aft battened only, the space between the battens to be filled in with boards.

Where vertical battens are fitted over the fore and aft ones, thick mats may be used in lieu of the boards before mentioned, but in the absence of mats, additional vertical battens are to be fitted between the original ones.

Where the 'tween deck is laid and caulked, with combings fitted round hatchways, the deck to be dunnaged with strip and board two inches high; but where the deck is open, the gutter waterway only will require to be covered with a fore and aft board.

5. In all cases where a vessel has carried salt or other cargo which leaves a permanent dampness in the deck, it is to be dunnaged in the same manner as a laid deck.

6. Covering of bottom, arrangement of shifting boards, and passage to pump well to be as prescribed for wooden ships.

I hereby certify that the foregoing Regulations numbered 1 to 6 are the Regulations of the Wheat Tariff Association, San Francisco, in respect of ships loading grain cargoes.

Dated this 16th day of November, 1896.

(Signed) EDM. L. WOODS,
Secretary to the Wheat Tariff Association,
San Francisco.

WHEREAS it is provided by Section 453 of the Merchant Shipping Act, 1894, that "Where a British ship is laden with a grain cargo on the coast of North America the precautions to prevent the grain cargo from shifting set out in the Eighteenth Schedule to this Act shall be adopted, unless the ship is loaded in accordance with Regulations for the time being approved by the Board of Trade":

Now, therefore, the Board of Trade, in pursuance of the provisions of Section 453 of the said Act, and for the purpose only of giving effect to the provisions contained in Part V. of the said Act relating to the carriage of grain, do hereby approve the Regulations of the Wheat Tariff Association, San Francisco, herein-before set out and dated the 16th day of November, 1896.

Dated this 1st day of March 1897.

(Signed) COURTENAY BOYLE,
Secretary to the Board of
Trade, London.

(6.)

MONTREAL.

REVISED RULES and REGULATIONS of the OFFICE of the PORT WARDEN of the HARBOUR of MONTREAL, sanctioned by the Council of the Montreal Board of Trade, 28th May 1895.

1. The master of any vessel intending to load grain for any port not within the limits of inland navigation shall notify the Port Warden, who shall ascertain whether such vessel is in a fit state

and condition to receive and carry her cargo in safety to its destination, and if, in his opinion, she is unfit, he shall declare what repairs are necessary. While the different holds are being prepared, the master shall notify the Port Warden from time to time, who shall see that each hold is in a fit and proper state and condition to receive grain, and shall enter in the books of his office all particulars connected with these surveys, and grant necessary certificates.

2. *Limbers*.—The limber boards to be lifted and limbers and water courses to the ships pumps to be cleaned where necessary.

3. *Ceiling*.—The seams of ceiling over water ballast tanks will require to be made grain-tight by nailing $\frac{1}{2} \times 2$ inch battens over them.

4. *Flooring*.—Where there are no ballast tanks nor permanent grain ceiling, a flooring will be required extending from the keelson to the turn of the bilge of 3×4 inch scantling, close boarded edge to edge, with two 1-inch boards breaking joints and made grain-tight, the cement between the frames above the ceiling to be examined and repaired if necessary, pump and other casings where passing through the ship's ceilings to be made grain tight.

5. In vessels having water ballast tanks in No. 2 and 3 holds, the Port Warden in his discretion may grant a certificate and permit bulk grain to be loaded in No. 1 and No. 4 holds, provided that on examination, the ship's ceiling in these holds is found to be dry and in good order, the seams caulked and made grain-tight.

6. *Shifting Boards*.—Shifting boards must extend from the upper deck to the keelson when grain is carried in bulk; when grain is carried in bags the shifting boards must extend from deck to deck in the 'tween decks, and not less than four feet downwards from the beams in the lower holds.

Shifting boards to be built of two or three inch planks laid close on edge, properly secured to the hold pillars, or shored every eight feet of length and five feet of height of hold, the shores or braces to be 3×6 inches or 4×6 inches, according to length, and firmly secured at both ends; in the hatchways the shores not to be further apart than five feet of length of hatch. Filling pieces to be fitted between the beams where bulk grain is carried. Shifting boards to be fitted in the between decks

when grain or flour in bags is carried. A bulkhead is to be built if the forward hold is continuous between No. 1 and No. 2 hatches.

7. *Feeders*.—Grain carried in bulk must be supplied by proper feeders, or else secured by bags of grain or other cargo.

Feeders to be constructed of 3 × 6 inch studding fitted inside of hatch coamings if possible, cleated at head and foot, boarded with 1½ inch boards on the inside of studding, shifting boards in centre to extend above bulk grain, and shored from side of feeders or hatch coamings; between deck scuttles to be used as supplementary feeders when practicable, the size of the box to be regulated by the Port Warden. Bunker hatches to be utilised as feeders when feasible. The quantity of bulk grain in the feeders should be equal to four inches of hold surface.

8. *Stowage*.—Steamers having one deck and beams may carry bulk grain to such a height as will permit the stowage over it of four heights of bagged grain, and where bagged grain or other cargo is used for securing the bulk grain, boards of one inch thickness must be laid close, edge to edge, on athwartship bearers not more than four feet apart, on the bulk grain to prevent it shifting. The bulk grain must be well trimmed up between the beams and in the wings, and all spaces completely filled.

9. There shall not be carried between the decks, or if the ship has more than two decks, between the main and upper decks, any heavy grain in bulk, except such as may be necessary for feeding the cargo in the hold, and is carried in properly constructed feeders.

10. No vessel over 400 tons register shall be permitted to load an entire cargo of grain in bulk, oats excepted. Oats may be carried in bulk to any extent, irrespective of the tonnage of the ship, but subject to such regulations with reference to dunnage, lining and shifting boards, as the Port Warden may prescribe.

11. The master shall inform the Port Warden of the quantity of bunker coal his vessel may require to take in after leaving this port, so that due allowance may be made when the freeboard is given. The freeboard of all vessels to be regulated by the Port Warden, but the freeboard is never to be less than that assigned under the provisions of the Imperial Merchant Shipping Act, 1894.

I hereby certify that the foregoing Regulations numbered 1 to 11 are the Regulations of the Port Warden of the Harbour of Montreal, sanctioned by the Montreal Board of Trade in respect of ships loading grain cargoes.

Dated this 13th day of November, 1896.

(Signed) GEO. HADRILL,
 (L.S.) Secretary to the Montreal
 Board of Trade.

WHEREAS it is provided by Section 453 of the Merchant Shipping Act, 1894, that "Where a British ship is laden with a grain cargo on the coast of North America the precautions to prevent the grain cargo from shifting set out in the Eighteenth Schedule to this Act shall be adopted unless the ship is loaded in accordance with regulations for the time being approved by the Board of Trade":

Now, therefore, the Board of Trade, in pursuance of the provisions of Section 453 of the said Act, and for the purpose only of giving effect to the provisions contained in Part V. of the said Act relating to the carriage of grain, do hereby approve the Regulations of the Port Warden of the Harbour of Montreal, sanctioned by the Montreal Board of Trade herein-before set out and dated the 13th day of November, 1896.

Dated this 1st day of March, 1897.

(Signed) COURTENAY BOYLE,
 Secretary to the Board of
 Trade, London.

II.

OFFICIAL NOTICE.

Mediterranean and Black Sea.

Merchant Shipping Act, 1894.

WHEREAS it is provided by section 453 of the Merchant Shipping Act, 1894, that "Where a British ship laden with a grain cargo at any port in the Mediterranean or Black Sea is bound to ports outside the Straits of Gibraltar, or where a British ship is laden with a grain cargo on the coast of North America, the precautions to prevent the grain cargo from shifting, set out in the Eighteenth Schedule to this Act, shall be adopted, unless the ship is loaded in accordance with regulations for the time being approved by the Board of Trade."

Now, therefore, the Board of Trade approve the following regulations, viz. :—

1. In the case of single-decked ships loading a grain cargo at a port in the Mediterranean or Black Sea, where no provision is made for feeding the hold, and where, according to the requirements of the Eighteenth Schedule of the said Act, one-fourth of the grain carried in any one compartment, bin, or division must be in bags, the Board of Trade have approved a regulation that the whole fourth, or any part of the fourth, of the compartment, bin, or division which would, according to the requirements aforesaid, be stowed with grain in bags, may in lieu thereof be stowed with bales of cotton, bales of grass, or bags of flour, or other suitable cargo; provided always that the substituted cargo be supported on suitable platforms laid on the grain in bulk and be so stowed as to prevent the grain from shifting.

2. In the case of ships having two decks, oats, cotton seed, or barley, may be carried in bulk in the 'tween decks, provided that—

- (a) Grain-tight feeders be fitted from the lower hold through the hatches to the uppermost deck: such feeders to contain not more than six per cent. and not less than

three per cent. of the quantity carried in the hold or compartment they feed. These feeders must not interfere with or decrease in any way the two per cent. which is required to feed the grain carried in the 'tween decks.

Or (in lieu of the regulation contained in the paragraph (a) above) may be substituted the following :—

- (b) That the between deck hatches shall not at any time be put on ; and
- (c) That strakes of the deck be lifted, or if the deck is an iron deck, sufficient openings be made through the deck in the wings, which with the open hatches shall admit of the cargo in the between decks feeding the lower hold.

The regulations contained below shall also be observed whether the ship is loaded under the regulation contained in paragraph (a) above, or in accordance with the regulations contained in the paragraphs (b) and (c) above ; that is to say,

- (d) There shall be longitudinal grain-tight shifting boards in accordance with Clause 3 of the Eighteenth Schedule of the said Act, and the grain shall be properly stowed, trimmed, and secured, as required by Clause 4 of the said Schedule.
- (e) Feeders shall be fitted to feed the grain carried in the between decks, such feeders to contain not less than two per cent. of the compartments they feed. If strakes of the deck be lifted, or sufficient openings are left to enable the grain in the 'tween decks to feed the lower hold, then it is obvious that the feeders must contain at least two per cent. of the compartments they feed, *i.e.*, the 'tween decks, plus the lower hold.
- (f) The space in the 'tween decks in which the grain in bulk is carried shall be bounded at each end by grain tight transverse bulkheads or partitions extending from deck to deck.
- (g) The ship shall not be overloaded.

3. If at any time it should appear to the Board of Trade that the above regulations or any of them insufficiently provide for

the safety of the ship, and should therefore in their opinion be revoked and withdrawn; or that they need alteration; the Board of Trade will revoke, withdraw, or alter them accordingly.

COURTENAY BOYLE,

Secretary.

INGRAM B. WALKER,

Assistant Secretary.

Marine Department, Board of Trade,

April 1897.
